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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/631,242	08/02/2000	Hoon Chang	678-520(P9487)	8089

7590 08/24/2004

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EXAMINER

WILSON, ROBERT W

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 08/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary**Application No.**

09/631,242

Applicant(s)

CHANG, HÖÖN

Examiner

Robert W Wilson

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2 is/are allowed.
- 6) ☒ Claim(s) 1 and 3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 8/12/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1.0 The application of Hoon Chang for an "APPARATUS AND METHOD FOR RETRANSMITTING DATA ACCORDING TO RADIO LINK PROTOCOL IN MOBILE COMMUNICATION" filed 8/2/2000 requesting Foreign Priority based upon Korea 1999-31753 dated 8/2/1999 and amended on 2/24/04 has been examined. Based upon a revised search of the prior art the finality of the previous rejection has been withdrawn. Claims 1-3 are pending.

Claim Rejections - 35 USC § 112

2.0 The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. A description of "retransmission request including fields that includes sequence numbers in the receiver" is critical or essential to the practice of the invention, but although it has been added as new matter in the claims or included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

On Page 12 Lines 1-5 the specification states that the NAK frame sent to the receiver provides the sequence numbers of the lost frames from the transmitter. The examiner interprets this to mean that the retransmission request is sent which specifies the sequence numbers of the lost frames and not the sequence numbers of the frames that were successfully received by the receiver.

Referring to **Claim 1**, the applicant states "transmitting a retransmission request frame including fields that indicate the sequence numbers in the receiver". The examiner has interpreted "transmitting a retransmission request including fields that include the sequence numbers in the receiver" as the complement of what is specified in the specification on Pg 12 Lines 1-5. Where in the specification does the applicant describe "transmitting a retransmission request frame including fields that indicate the sequence numbers in the receiver"?

Claim Rejections - 35 USC § 103

3.0 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4.0 Claims 1 & 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rezaiifar et. al. (U.S. Patent No.; 6,001,796).

Referring to **Claim 1**, Rezaiifar discloses: A method of requesting frame retransmission in a mobile communication system (Fig 2 or col. 4 line 60-col. 5 line 5 or method)

Storing a sequence number of a plurality of RLP (Radio Link Protocol frames that are not received from a transmitter in a receiver (The receiver 52 per Fig 2 stores sequence number of frames not received from the transmitter 50 per Fig 2 in 92 per Fig 2 or NAK LIST for RLP frames per col. 1 lines 49-60.)

Transmitting a retransmission request frame including fields that indicate the sequence number in the receiver (The receiver generates a NAK message which contains the sequence numbers of the frames not received by the receiver per Fig 2 or col. 7 lines 22-63. It would have been obvious to one of ordinary skill in the art at the time of the invention that the sequence numbers that are in the receiver would have to be known in order to create a NAK message.)

Sequentially receiving the requested RLP frames in the order of the sequence numbers from the transmitter in the receiver (The receiver determines if out of order sequence numbers have been sent per col. 7 lines 23-63 or sequentially receiving)

Comparing the stored sequence numbers with the sequence numbers of received RLP frames when if the receiver fails to receive one of the requested RLP frames (91 or the controller reviews the sequence numbers to see if the frame are out of sequence and creates the NAK LIST per Fig 2 per Col. 4 lines 33-59)

Requesting retransmission of the lost RLP frame upon receipt of an RLP frame of a higher sequence number than the sequence number of the lost RLP frame (The receiver uses the NAK LIST per Fig 2 and creates a NAK requesting a frame that has been received out of sequence per Col. 4 lines 33-59)

Rezaiifar does not expressly call for: Transmitting a retransmission request frame including fields that indicate the sequence number in the receiver but teaches the receiver generates a NAK message which contains the sequence numbers of the frames not received by the receiver per Fig 2 or col. 7 lines 22-63.

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It would have been obvious to one of ordinary skill in the art at the time of the invention that the sequence numbers that are in the receiver would have to be known in order to create a NAK message.

Referring to **Claim 3**, Rezaiifar discloses: A mobile communication system (50 is a transmitter in a base station and 52 is wireless terminal per Fig 2 or mobile communication system)

A transmitter for transmitting a plurality of RLP (Radio Link Protocol frames each having a sequence number (50 is a transmitter per Fig 2 which sends RLP frames per col. 1 line 54 having a sequence number or 72 per Fig 2)

And sequentially transmitting to the receiver requested RLP frames along with sequence numbers of a requested RLP frames in the order of the sequence numbers upon receipt of a retransmission request frame (The applicant broadly claims "sequentially transmitting". The receiver sends NAKs which includes SEQ#s of the RLP frames not received to the transmitter per Fig 2. The examiner interprets the transmitter retransmitting frames with sequence numbers as "sequentially transmitting" per Fig 2 or col. 4 line 60-col. 5 line 5.

A receiver for receiving the plurality of RLP frames (52 per Fig 2 or receiver which receives a plurality of RLP frames)

Transmitting a first retransmission request frame including fields that indicated the sequence number of non-received RLP frames (The receiver per Fig 2 sends a NAK with the SEQ # not received when out of sequence number frames are received per col. 4 lines 33-59)

And transmitting a second retransmission request frame if the receiver fails to receive on of the requested RLP frames (The system processes a predetermined number of NAKs per col. 5 lines 21-25)

Rezaiifar does not expressly call for: transmitting a second retransmission request frame if the receiver fails to receive on of the requested RLP frames but teaches the system processes a predetermined number of NAKs per col. 5 lines 21-25.

It would have been obvious to one of ordinary skill in the art at the time of the invention that processing a predetermined number of NAKs performs the same function as transmitting a second retransmission request frame if the receiver fails to receive the requested RLP frame.

Allowable Subject Matter

5.0 The present invention is directed to a mobile communication system in which the following is performed:

The transmitter sends RLP frames having a sequence number, the receiver receives a plurality or RLP frames, the receiver transmits a retransmission request frame for the RLP frame in the

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receiver failed to receive an RLP frame of a higher sequence number than the sequence number of the lost frame

The closest prior art is Rezaiifar et. al. (U.S. Patent No.; 6,001,796). Rezaiifar et. al. (U.S. Patent No.; 6,001,796) discloses: a mobile communication system in which the following is performed:

The transmitter sends RLP frames having a sequence number, the receiver receives a plurality of RLP frames, the receiver transmits a retransmission request frame for the RLP frame in the receiver failed to receive an RLP frame out of sequence number frame.

The closest prior art Rezaiifar et. al. (U.S. Patent No.; 6,001,796) does not disclose either singularly or in combination anticipate or render the following claim limitation obvious:

“the receiver transmits a retransmission request frame for the RLP frame the receiver failed to receive upon receipt of an RLP frame of a higher sequence number than the sequence number of the lost RLP frame” as claimed in **Claim 2**.

Response to Amendment

6.0 Applicant's arguments with respect to claims 1 & 3 have been considered but are moot in view of the new ground(s) of rejection.

The new reference, Rezaiifar et. al. (U.S. Patent No.; 6,001,796), teaches a system that processes a plurality of RLP frames per Fig 2 and also teaches the storing of non-received frame number in the NAK LIST per Fig 2 or storing a plurality of non-transmitted RLP frame numbers.

Conclusion

7.0 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W Wilson whose telephone number is (703) 305-4703.

The examiner can normally be reached on M-F (8:00-4:30).

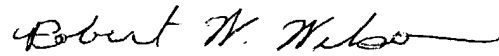
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



Robert W Wilson
Examiner
Art Unit 2661

RWW

August 19, 2004



DOUGLAS OLMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600